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Explanatory study of factors affecting purchase intention of low-technology innovation of local products in Surabaya

Jeremy Jethro, Silvia Margaretha, Christina R. Honantha

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Proceedings of the 16th International Symposium on Management (INSYMA 2019)

Explanatory study of factors affecting purchase intention of low-technology innovation of local products in Surabaya

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consumer doubt, skepticism, familiarity, value for money, purchase intention

Abstract

The purpose of this study is to examine the effect of consumer doubt, skepticism, familiarity, value for money, information seeking, and aesthetic design on purchase intention of low-technology innovation of the local product. There are 7 variables used for this research, namely consumer doubt, skepticism, familiarity, value for money, information seeking, aesthetic design, and purchase intention. This research applied a quantitative approach with multiple linear regression method. Data gathered from 200 respondents who bought low-technology innovation products of local products in Surabaya. The data processing used PASW Statistic 18 for Windows software. The results of this study indicate that consumer doubt, skepticism, familiarity, value for money, information seeking, and aesthetic design simultaneously have a significant effect on purchase intention of low-technology innovation of local products. However, if the variables are tested separately, it is found that consumer doubt and skepticism have a significant negative effect on purchase

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Charles K. Chui, Ph.D. Wisconsin-Madison, is Research Professor of Mathematics at Hong Kong Baptist University and Consulting Professor of Statistics at Stanford University. He is also Curators' Professor Emeritus of the University of Missouri and Distinguished Professor Emeritus of Texas A&M University, where he had joint appointments in four departments and two colleges, namely the Department of Mathematics and Department of Statistics (College of Science) and the Department of Electrical Engineering and Department of Computer Science (College of Engineering). His current research interest is in Computational and Applied Mathematics with a focus on real-world data processing, visualization, and understanding for big data areas such as blind source decomposition and feature extractions of time series, medical images, surveillance videos and high-dimensional complex data on unknown manifolds of much lower dimensions. After spending over two decades of dedicated research in Function Theory, Approximation Theory, Harmonic Analysis and Computational Mathematics, he turned his attention to the applications of mathematics, particularly in solving real-world problems, first by working on medical imaging in collaboration with a team of radiologists and physicists in MD Anderson Cancer Center in Houston (Texas), followed by founding his first company in Silicon Valley in California based on his expertise in image compression and manipulation.

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Peter Hendriks is a senior publishing professional with broad experience in both professional as well as scientific publishing companies. He obtained an MBA from the University of Groningen after which he joined Wolters Kluwer as a Management Trainee in 1987. In 1991 he became a Publisher and later Business Unit Director at Kluwer Professional Netherlands, and in 1999 he joined Kluwer Academic Publishers, initially as Vice President U.S., and was later appointed as CEO & President in 2001. Kluwer Academic Publishers was subsequently bought by private equity investors and merged with Springer in 2003 where Peter became a member of the Springer Executive Board in different roles for the next 13 years. He left what had by then become Springer Nature in 2016 after which he took up a number of supervisory and advisory board positions in different publishing companies (including Atlantis Press). As of 2017, he serves as the Chief Executive Officer (CEO) of Dutch educational publisher Malmberg which belongs to the Sanoma media group.

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Explanatory study of factors affecting purchase intention of low-technology innovation of local products in Surabaya

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ABSTRACT: The purpose of this study is to examine the effect of consumer doubt, skepticism, familiarity, value for money, information seeking, and aesthetic design on purchase intention of low-technology innovation of the local product. There are 7 variables used for this research, namely consumer doubt, skepticism, familiarity, value for money, information seeking, aesthetic design, and purchase intention. This research applied a quantitative approach with multiple linear regression method. Data gathered from 200 respondents who bought low-technology innovation products of local products in Surabaya. The data processing used PASW Statistic 18 for Windows software. The results of this study indicate that consumer doubt, skepticism, familiarity, value for money, information seeking, and aesthetic design simultaneously have a significant effect on purchase intention of low-technology innovation of local products. However, if the variables are tested separately, it is found that consumer doubt and skepticism have a significant negative effect on purchase intention. Familiarity, information seeking, and aesthetic design have a significant positive influence on purchase intention. While of value for money has an insignificant effect on purchase intention.

Keywords: consumer doubt, skepticism, familiarity, value for money, purchase intention.

1 INTRODUCTION

Competition in the world of marketing is getting more difficult from time to time due to the rapid development of science and technology. Companies and industries are also required to think of ways and breakthroughs to win the competition. Innovation is needed in business because, in essence, people tend to get bored with the same things. Ellitan instead of Creusen et al. (2010) states that innovation is generally considered as an important aspect of some business processes because it can provide a competitive advantage. In fact, this competitive advantage is something needed by a company to win the competition.

In the world of marketing, Roehrch instead of Kim et al. (2004) explains that innovation is the ability of a company to create a new product as quickly as possible within a certain period of time. This innovation is one of the factors of the company's success and it is explained that companies that are capable of providing innovative products will enjoy long-term success in the competitive marketing world (Baker & Sinkula 2002).

Various companies continue to compete to produce innovative products to please consumers. New product innovations are divided into two, namely low-technology and high-technology products. Low-technology products are products that use familiar and generally accepted technology and the acceptance and use of these products can be easily understood by users. While high-technology products are products that apply the latest breakthrough technology and there are significant changes in the way they are used and require adjustments to users. An example of low-technology product innovation is a washing machine product; where the washing machine is able to do the laundry process in one go.

Consumers only do the same things like a washing machine in general, by putting in clothes to the machine and pressing a start button, clothes will go through the process of washing, rinsing, and drying. Here, consumers do not need to learn and re-adjust the process of using the washing machine. While, the example of a high-technology product is a smartphone product, where a phone in the previous era used the keypad as the basis for its operation. But on smartphones, consumers are required to

make adjustments in their use, namely using a touch screen.

Based on the reference journal used, Baker & Lutz (2000) used low-technology product objects such as washing machines, televisions, and vacuum cleaners. The reason for choosing the object was due to the respondents in the journal were the Universiti Malaya, Malaysia students with the average income per month are assumed to be insufficient to purchase high technology products. Therefore, Baker & Lutz (2000) used low-technology product objects because the price is relatively lower compared to high-technology products.

To find out the facts about consumer concerns about new products, the authors conducted interviews with several resource persons who had bought local products classified as low-technology innovation. Interviews were held directly, between authors with each resource person. The results of the interview found an apprehensive tendency to arise related to the aspects of durability, guarantee, quality, as well as the satisfaction and suitability of prices with product quality.

If talking about innovative products, even though the products come with a brilliant idea and is able to ease consumers, but not infrequently the innovation product does not sell well in the market; even companies must stop the production of these innovative products. For example, in 1990, the world's leading tire company, Michelin discovered a revolutionary innovation in tires that had a sensor and a hard layer as additional inner tube inside the tire. This innovation allows us to prolong a leaking tire even when we are driving because the sensor will light up and the hard layer of the additional inner tube will replace the leaky outer layer. As a result, the car can still move for about 125 miles after the leak.

But not long after the discovery of the product, until 2007, the level of product sales did not indicate an increase. As stated by Bettman & Park (1980), which was reported from www.johnson.cornell.edu, Sun said that innovation must begin with consumer demand. Letting a scientist create an innovative product without the basis of consumer needs will clearly harm the company because the process of product innovation is full of uncertainty. If the process comes from consumer ideas and needs, then the whole process can be anticipated by the company.

The research gap that is in the Baker & Lutz (2000) study found that the consumer doubt variable does not affect the purchase intention variable and is not accepted. Whereas, research conducted by Saaksjarvi & Morel (2010) obtains the consumer doubt variable influences the purchase intention variable. The results of interviews with 3 resource persons who have bought low-technology innovation of

local products show consumer doubt, especially in terms of product durability.

2 RESEARCH METHODS

This research is included in the basic research because the purpose of this research is to develop science and not to solve a problem in a phenomenon. While based on the type, this research is included in causal research because, in this research, the authors sought identification of causal relationships. Moreover, this study used a quantitative approach, because this study is discussed empirically and using numerical analysis and measurement.

The data collection technique used was offline questionnaire distribution. The level used for all variables (dependent and independent) in this study was the interval level, which is the level of measurement that shows the same distance and a clear difference on the scale. The choice of answers at the interval level was arranged on a Likert scale with the aim that respondents give an assessment of the statements and questions measured in 7-point scale.

The sampling method in this research was a non-probability sampling. With this method, the probability of each particular member of the selected population is unknown, while the selection of sampling units on non-probability sampling depends on the personal judgment of the researcher. In this study, respondents were 200 consumers who had purchased and used low-technology innovation of local products in the past year and living in Surabaya city, Indonesia.

Data processing was done using IBM SPSS for Windows software. The type of data processing done were the validity and the reliability tests, the classic assumption test (normality test, heteroscedasticity test, and multicollinearity test), and the hypothesis test (R^2 test, T-test, and F-test).

3 RESULTS AND DISCUSSIONS

Table 1. The Result of R^2 test.

Model	R	R Square	Adjusted R Square	Std Error of the Estimate	Durbin-Watson
1	0.977	0.955	0.954	0.117	1.487

a Predictors: (Constant), Mean_IS, Mean_VM, Mean_F, Mean_S, Mean_AD, Mean_CD.

b Dependent Variable: Mean_PU

from the table above, it can be seen that R^2 value is 0.955 (> 0.5), which shows the ability of variations in the independent variable to explain the variation of the dependent variable by 95%.

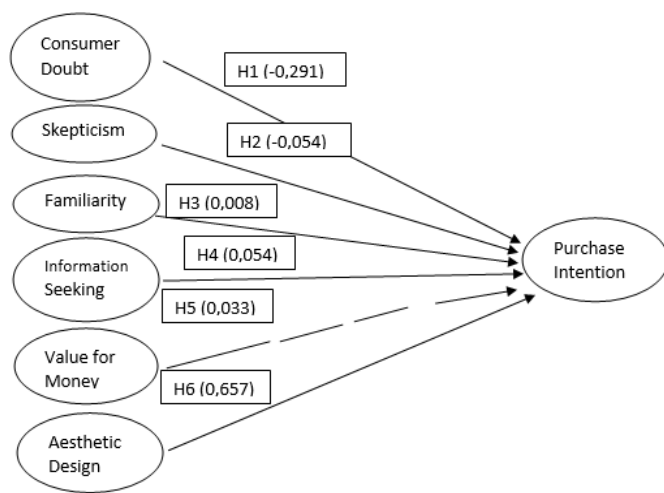


Figure 1. Model of Hypothesis Testing Results.

Table 2. The results of Simultaneous Hypothesis Testing (F test).

Model	Sum of Squares	df	Mean Square	F	Sig
1 Regression	56.043	6	9.340	681.632	0.00 ^a
Residual	2.645	193	0.014		

a Predictors: (Contant), Mean_IS, Mean_VM, Mean_F, Mean_S, Mean_AD, Mean_CD.

b Dependent Variable: Mean_PU

From the table above, it can be seen that Sig. value is 0.000 which meets the requirements of less than 0.05. So that, it can be concluded that the hypothesis testing is simultaneously accepted/significant.

Table 3. The results of Hypothesis Testing

Hypothesis	Structural Relationship Between Constructs	Sig.	Note
H1	CD – PI	0.000**	Supported
H2	S – PI	0.001**	Supported
H3	F – PI	0.035*	Supported
H4	IS – PI	0.000**	Supported
H5	VM – PI	0.608	Not Supported
H6	AD – PI	0.030*	Supported

** significant $\alpha = 1\%$, * significant $\alpha = 5\%$

Table 3 shows the significance value after data processing. From the table, it can be seen that all hypotheses are accepted (significant) because they have a Sig. value <0.05 , except H5 which is not accepted because it has a Sig > 0.05 .

4 CONCLUSION

Based on the results of hypothesis testing in the previous chapter, conclusions can be drawn for hypothesis 1, namely, Consumer Doubt has a negative and

significant effect on the Purchase Intention of low-technology innovation of the local product. Hypothesis 2 shows that skepticism has a negative and significant effect on the Purchase Intention of low-technology innovation of the local product. Hypothesis 3 of Familiarity has a positive and significant effect on the Purchase Intention of low-technology innovation of the local product. Hypothesis 4 of Information Seeking has a positive and significant effect on the Purchase Intention of low-technology innovation of the local product. Hypothesis 5 of Value for Money has no effect on the Purchase Intention of low-technology innovation of the local product. While, hypothesis 6, Aesthetic Design has a positive and significant effect on the Purchase Intention of low- technology innovation of the local product.

From the results of this study, the recommendations that can be given to the manufacturers of low-technology innovation of local product lie in aesthetic design that shows the highest factor affecting purchase intention with β value of 0.6557. Management needs to know the consumer preferences, especially in terms of design (shape, color, size) such as colors that give the impression of elegance and luxury, and these factors need to be considered and applied in new products to be produced. By providing the desired product and according to consumer preferences, the company will be able to retain consumers, lead to increased customer loyalty and eventually reach a wider market. This will certainly provide a significant increase in profit for the producer company.

The recommendation for further research is the use of a wider range of areas, such as the whole of Indonesia so that the results obtained are more diverse. In addition, further research can use high-technology innovation product objects such as smart phones, computers, tablets, and various new innovative products with high-technology levels, which in some ways are certainly different from the low-technology innovation products, in terms of cost, consumer concerns, and skeptical thinking from consumers. With the differences in the results that occur, it can be compared between this research and subsequent research with the object of high-technology innovation product. While the last, the majority of respondents in this study were 20-24 years of age who are students and have a relatively low-income level, which influence the value of money in the eyes of respondents. Subsequent research can focus more on over 25 years of age respondents and have a fixed and sufficient income so that the characteristics of the respondents in terms of income are more varied which leads to more diverse research results.

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